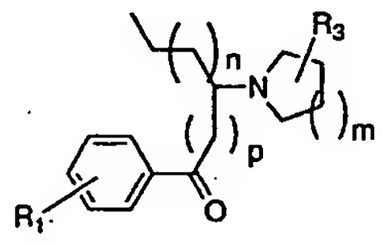
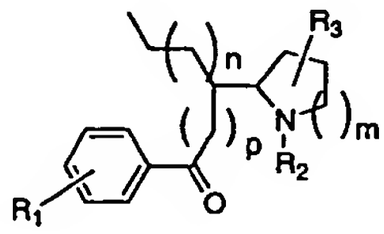
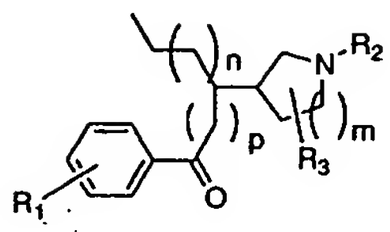
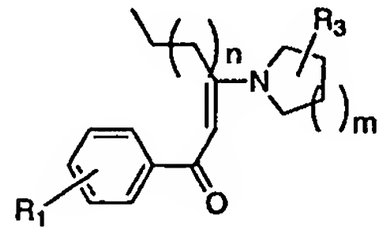
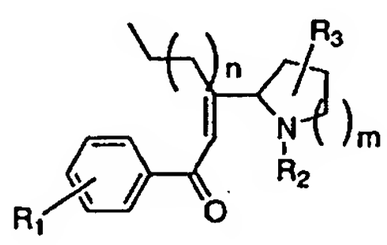
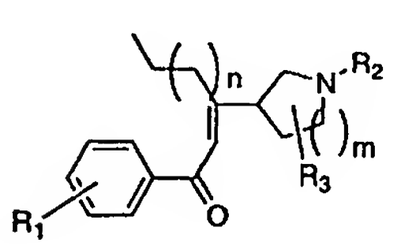
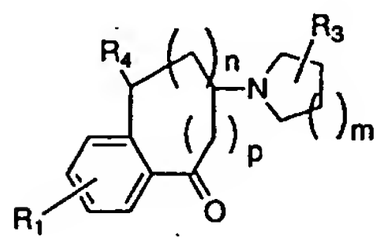
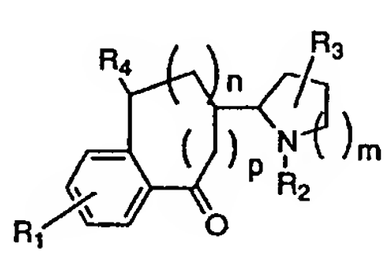
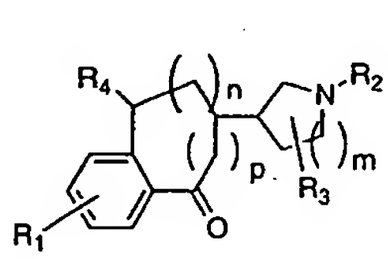
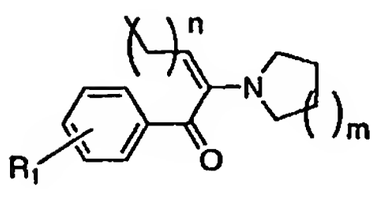
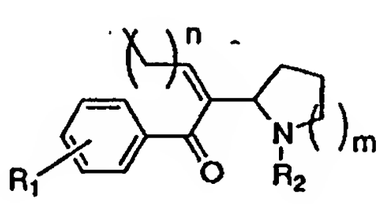
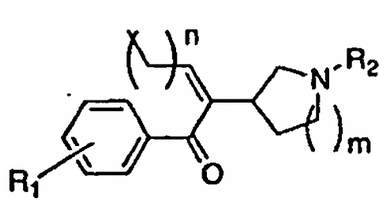
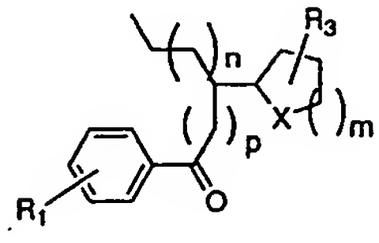
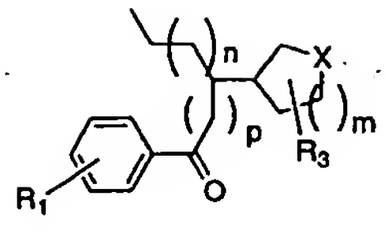
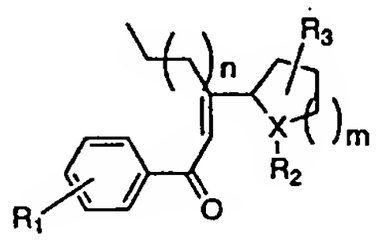
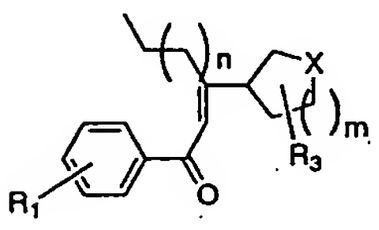
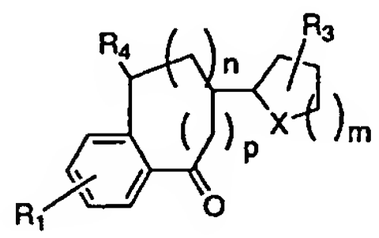
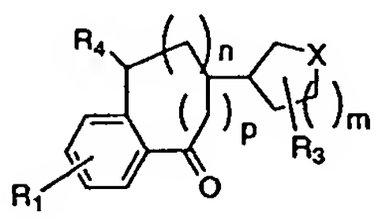
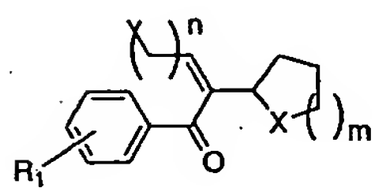
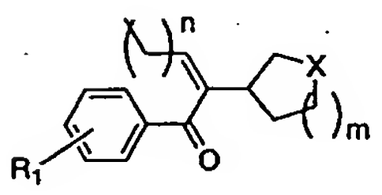
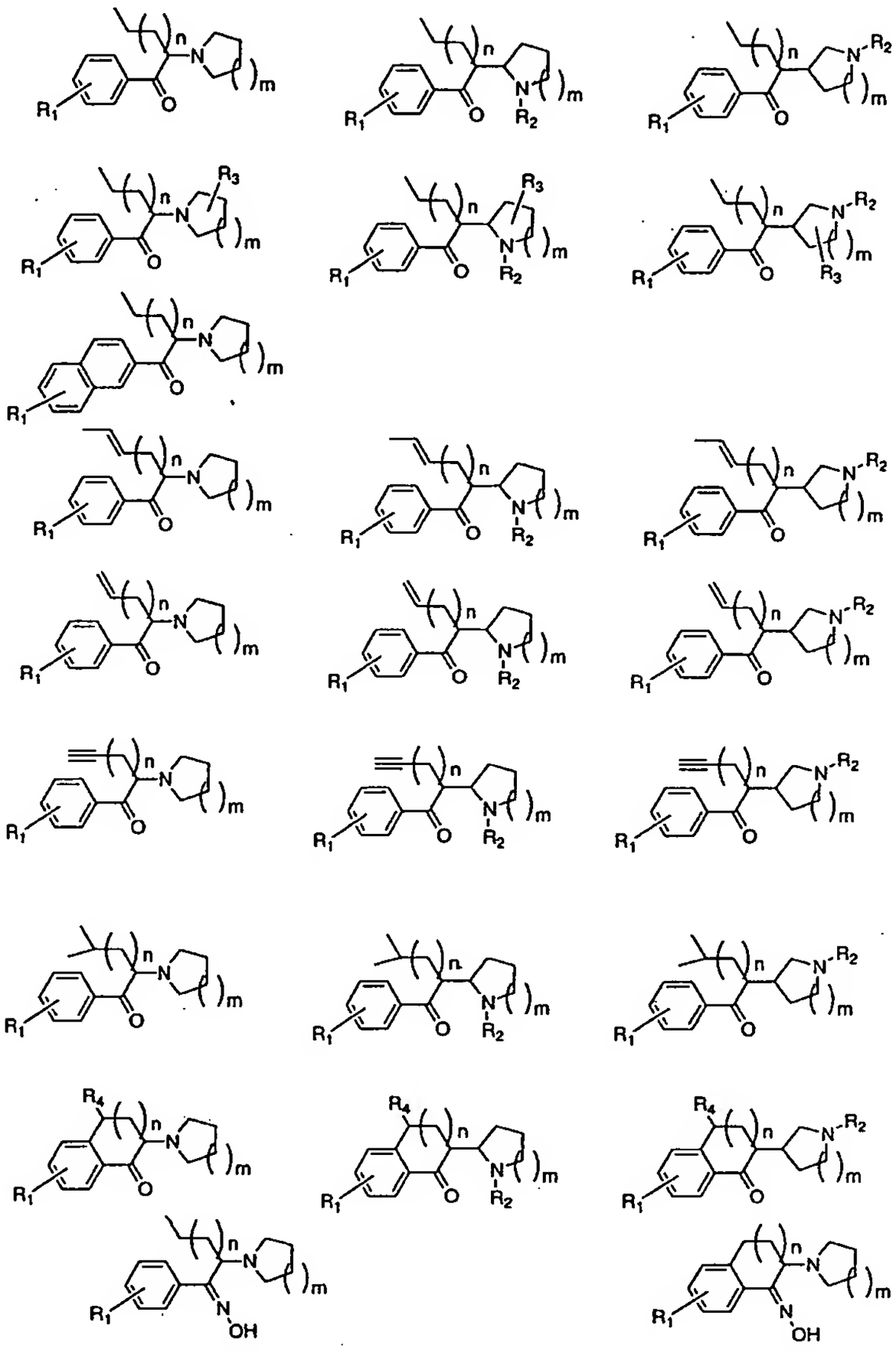
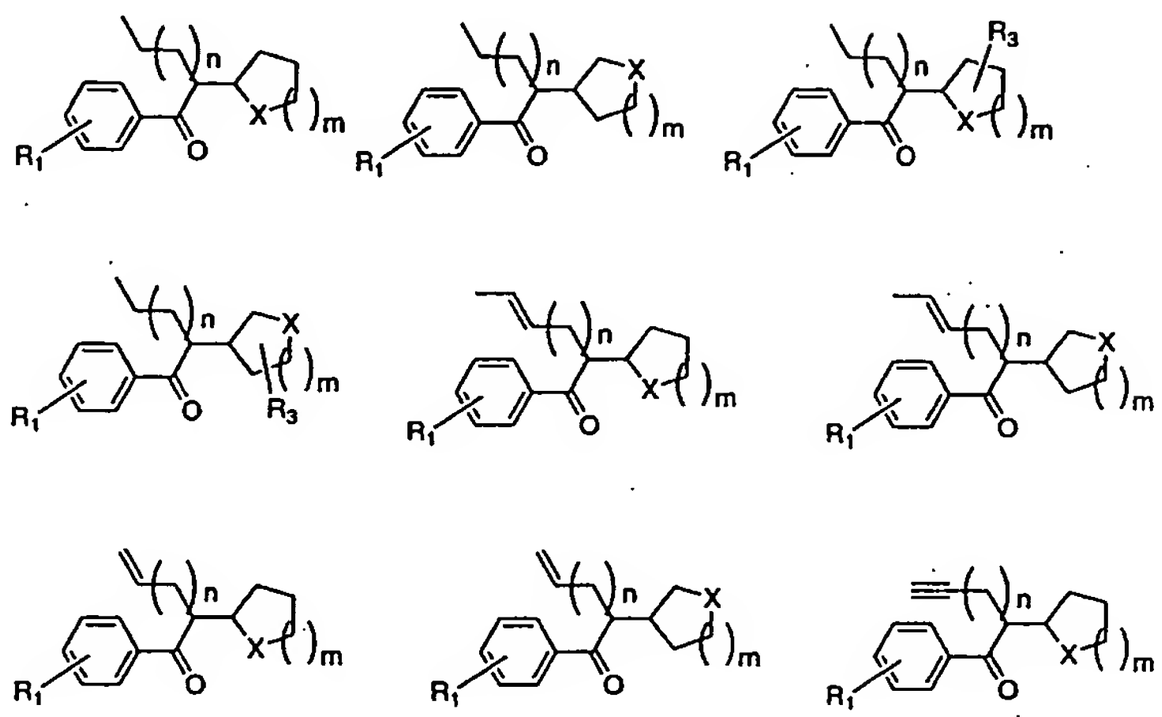
AMENDMENTS TO THE CLAIMS

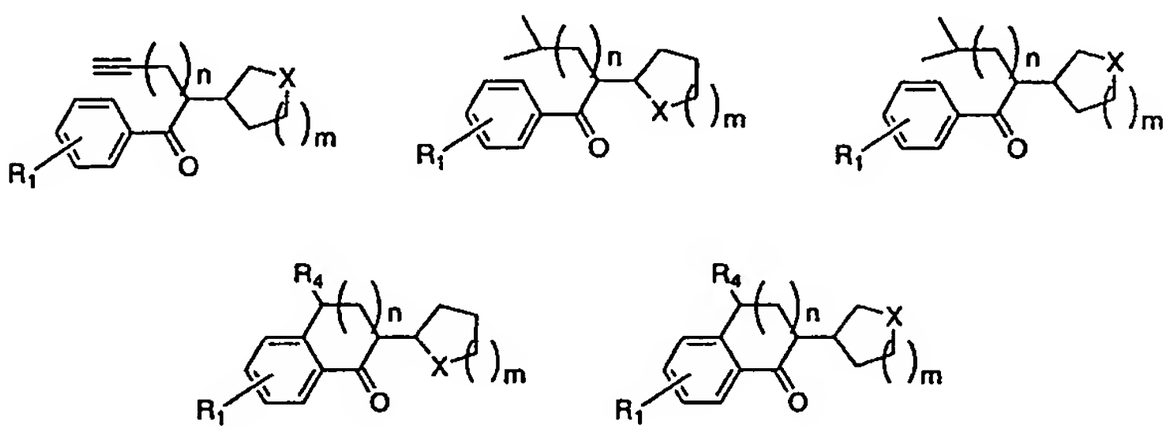
1. A compound represented by any of the following formulae:







wherein,

R_1 = one to four substituents independently selected from the group consisting of H, halogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted alkenyl, substituted or unsubstituted alkenyloxy, substituted or unsubstituted alkynyl, substituted or unsubstituted alkynyloxy, $(CH_2)_n$-Ar, OH, OC(O)-alkyl; CF_3; NO_2; NH_2; CN; $NHCOCH_3$; CO-alkyl, CH_2OH, $(CH_2)_nOR_2$ (in which n is 1 to 4) and$(CH_2)_nOCOR_2$; (in which n is 1 to 4);

R_2 = H, substituted or unsubstituted alkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted alkenyl, substituted or unsubstituted alkenyloxy, substituted or unsubstituted alkynyl, substituted or unsubstituted alkynyloxy, or CH_2ArR_1;

R_3 = one or two substituents independently selected from the group consisting of H, halogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted alkenyl, substituted or unsubstituted alkenyloxy, substituted or unsubstituted alkynyl, substituted or unsubstituted alkynyloxy, OH, $(CH_2)_nArR_1$; CF_3; NO_2; NH_2; CN; $NHCOCH_3$, CO-alkyl, CH_2OH, $(CH_2)_nOR_2$ (in which n is 1 to 4) and $(CH_2)_nOCOR_2$ (in which n is 1 to 4);

R_4 = H, substituted or unsubstituted alkyl, substituted or unsubstituted alkoxy (preferably methoxy), substituted or unsubstituted alkenyl, substituted or unsubstituted alkenyloxy, substituted or unsubstituted alkynyl, substituted or unsubstituted alkynyloxy, OH, OC(O)-alkyl; CF_3; NO_2; NH_2; CN; NHCO-alkyl, $COCH_3$, CH_2OH, $(CH_2)_nOR_2$ (in which n is 1 to 4) and$(CH_2)_nOCOR_2$ (in which n is 1 to 4);

Ar is an aromatic group;

n = 0 – 4;

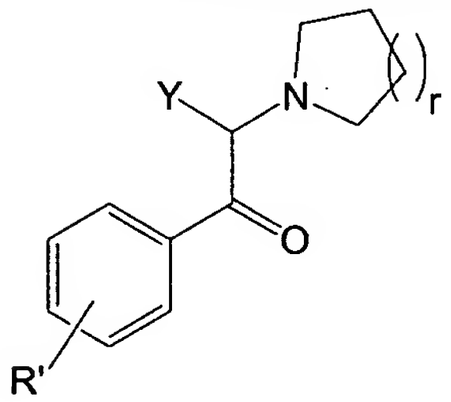
m, p = 0 – 2; and

X = O, CH_2, S, SO_2, or SO;

or a pharmaceutically acceptable salt thereof;

with the proviso that, when the compound is a racemic mixture, the compound is not α-pyrrolidino-valerophenone, pyrovalerone, 1-phenyl-2-pyrrolidino-3-methylbutan-1-one, 1-(p-methoxy-phenyl)-2-pyrrolidino-pentan-1-one, 1-(p-hydroxy-phenyl)-2-pyrrolidino-pentan-1-one, 1-phenyl-2-pyrrolidino-butan-1-one, 1-phenyl-2-pyrrolidino-heptan-1-one, 1-(p-chloro-phenyl)-2-pyrrolidino-pentan-1-one, 1-(m-methyl-phenyl)-2-pyrrolidino-pentan-1-one, 1-phenyl-2-pyrrolidino-nonan-1-one, 1-(p-methoxy-phenyl)-2-pyrrolidino-hexan-1-one, or α-(2'-methyl-pyrrolidino)-valerophenone.

2. A compound represented by the structure:



in which

R' represents one to four substituents independently selected from the group consisting of H, halogen (preferably F, Br, Cl, or I), substituted or unsubstituted alkyl, substituted or unsubstituted alkoxy (preferably methoxy), substituted or unsubstituted alkenyl, substituted or unsubstituted alkenyloxy, substituted or unsubstituted alkynyl, substituted or unsubstituted alkynyloxy, $(CH_2)_n$-Ar, OH, OC(O)-alkyl, CF_3, NO_2, NH_2, CN, $NHCOCH_3$, CO-alkyl, CH_2OH, $(CH_2)_nOR_2$ (in which n is 1 to 4) and $(CH_2)_nOCOR_2$ (in which n is 1 to 4);

Y is an aliphatic group having from 1 to 8 carbons in a straight, branched, or cyclic aliphatic chain, and

r is 1 or 2; or a pharmaceutically acceptable salt thereof;

provided that: when the compound is a racemic mixture, 1) if Y is n-propyl, and r is 1, then R' is not H, 4-methyl, 4-hydroxy, 4-methoxy, 4-chloro, or 3-methyl; and 2) if Y is ethyl, isopropyl, n-butyl, n-pentyl, or n-heptyl, and r is 1, then R' is not H for every occurrence.

3. The compound of claim 2, in which the compound is the 2S- enantiomer.

4. The compound of claim 2, in which R' is selected from the group consisting of 4-F, 4-Br, or 4-I.

5. The compound of claim 2, in which R' represents 3,4-Cl, 3,4-OH, or 3,4-diacetoxy.

6. The compound of claim 2, in which R' is 4-acetamido or R' is 4-nitro.

7. The compound of claim 2, in which R' is 2-methyl or 3-I.

8. The compound of claim 2, in which R' is 4-hydroxymethyl or 4-C(O)O-alkyl

9. The compound of claim 2, in which R' is 4-alkynyl.

10. The compound of claim 2, in which R' is an aromatic ring attached at the 4-position.

11. The compound of claim 2, in which the compound is the 2-R enantiomer.

12. The compound of claim 3, in which R' is 4-methyl.

13. The compound of claim 2, in which the aliphatic group is an allyl group.

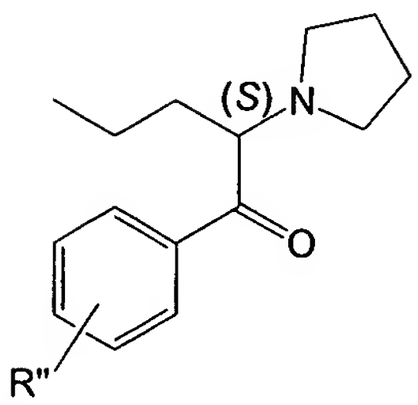
14. The compound of claim 2, in which the aliphatic group is an ethyl group.

15. The compound of claim 2, in which the aliphatic group is an isobutyl group.

16. The compound of claim 2, in which the aliphatic group is an n-propyl group.

17.-49. (canceled)

50. A compound represented by the structure:



in which R'' represents one to four substituents selected from the group consisting of halogen, lower alkyl, lower alkenyl, lower alkynyl, aryl, hydroxy, -CF_3, nitro, amido, -(O)CO-alkyl and –C(O)O-alkyl;

and pharmaceutically acceptable salts thereof.

51. The compound of claim 50, in which R'' represents 4-alkyl.

52. A compound selected from the group consisting of

1-(4-Propynyl-phenyl)-2-pyrrolidin-l-yl-pentan-l-one

4-Methyl-2-pyrrolidin-1-yl-1 p-tolyl-pentan-1-one

1-(4-Iodo-phenyl)-2-pyrrolidin-1-yl-pentan-1-one

1 -Naphthalen-2-yl-2-pyrrolidin-1 -yl-pentan- 1 –one

2-Pyrrolidin-1-yl-l-m-tolyl-pentan-1-one

2-Pyrrolidin-1-yl-1-o-tolyl-pentan-1-one

2-Pyrrolidin-1-yl-1-(4-thiophen-2-yl-phenyl)-pentan-1-one

2-Pyrrolidin-1-yl-1-(4-furan-2-yl-phenyl)-pentan-l-one

2-Pyrrolidin-1-yl-1-(4-nitro-phenyl)-pentan-1-one

N-[4-(2-Pyrrolidin-1-yl-pentanoyl)-phenyl]-acetamide

2-Pyrrolidin-1-yl-1-(4'-bromo-phenyl)-pentan-l-one

2-Pyrrolidin-1-yl-1-(4'-hydroxy-phenyl)-pentan-1-one

2-Pyrrolidin-1-yl-1-(4'-methoxy-phenyl)-pentan-1-one

1-(3-Iodo-phenyl)-2-pyrrolidin-1-yl-pentan-1-one

2-Pyrrolidin-1-yl-1-(3,4-Dichloro-phenyl)-pentan-1-one

2-Pyrrolidin-1-yl-phenyl-pentan-1-one

2-Pyrrolidin-1-yl-1-(4'-fluoro-phenyl)-pentan-1-one

(*S*)-2-Pyrrolidin-1-yl-1-*p*-tolyl-pentan-1-one

1-(4-Hydroxymethyl-phenyl)-2-pyrrolidin-l-yl-pentan-l-one

4-(2-Pyrrolidin-1-yl-pentanoyl)-benzoic acid methyl ester and

1-(3,4-Dihydroxy-phenyl)-2-pyrrolidin-1-yl-pentan-1-one

and pharmaceutically acceptable salts thereof.

53.-76. (Canceled)